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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,035	07/30/2001	Paul E. Purpura	BAYE-0009	9831
7590		08/26/2004	EXAMINER	
Woodcock Washburn Kurtz		KOYAMA, KUMIKO C		
Mackiewicz & Norris LLP		ART UNIT		
One Liberty Place - 46th Floor		PAPER NUMBER		
Philadelphia, PA 19103		2876		

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/918,035	Applicant(s) PURPURA ET AL.	
	Examiner Kumiko C. Koyama	Art Unit 2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-35 is/are allowed.
- 6) ☒ Claim(s) 1-10, 36 and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

Acknowledgement is made of receipt of Amendment filed on June 01, 2004.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu (US 6,409,085) in view of Allen et al (US 5,578,813).

Gu teaches a produce data collector that includes an ambient light sensor 46 for sensing the level of ambient light through windows and sends ambient light level signals 88 to control circuitry 56 (col 8, lines 40-45). When the ambient light sensor and the control circuitry senses the placement of a produce item, the control circuitry takes a reading from the detector array 54, which detects both the produce and the ambient light leakage (col 9, lines 3-7, 27-30 and 40-46). This reading is the real-time system dark level plus any ambient light leakage (col 9, lines 40-47), which is considered as a baseline signal. The second reading, which is a spectral reading with LED's on (col 9, lines 40-47), is considered as the detected signal by the receiving light reflected from the target and background while transmitting a light scan at the target. The control circuitry 56 subtracts the first reading from the second reading to produce a produce digitized produce data signals 84 (col 9, lines 40-47).

Art Unit: 2876

Gu fails to teach that the light scan striking the target at an angle of incidence of substantially nine degrees or less. Gu also fails to teach that the angle of incidence is substantially three degree or less and zero degrees.

Allen discloses if original 14 is a paper product for which paper fibers are to be detected by the navigation sensor 24, the introduction of light at a grazing angle of incidence is preferred. Allen discloses that the grazing angle 30 is zero degrees (col 9, lines 9-20).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Allen to the teachings of Gu such that light is equally distributed to the aiming target and therefore, uniform light is also collected for accurate reading of the bars and spaces.

3. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Allen as applied to claim 1, and further in view of Dolash et al (US 4,983,817). The teachings of Gu as modified by Allen have been discussed above.

Gu as modified by Allen fails to teach that the target comprises a barcode and that the transmitting the light scan at the target comprises transmitting a laser beam at the target.

Dolash teaches a background compensating bar code reader that detects a fluorescent light signal 10 serving as the detect signal by receiving light reflected from the target and a reflected excitation light signal 11 serving as signal for the generating of the baseline signal (col 5, lines 28-37). The reflected excitation light signal 11 converts into a voltage signal 21, and voltage signal 21 is converted into voltage signal 31 (col 7, lines 7-15). Such conversion serves as generating a baseline signal. The fluorescent light

Art Unit: 2876

signal 10 is converted into voltage signal 18 (col 7, lines 1-7), which serves as generating a detected signal. Dolash further teaches that a subtraction device could be used to subtract one voltage signal 31 from the other voltage 18 and the resultant differential voltage would be constant and independent of background reflectance under the fluorescent bars (col 7, lines 60-65). Dolash teaches that the invention is for reading a fluorescent bar code (col 4, lines 66+). Dolash teaches that the excitation light source means 3 comprises a conventional helium-neon laser (col 5, lines 10-11).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Dolash to the teachings of Gu as modified by Allen in order to obtain the ambient reading in a barcode reading method, such that the ambient condition can be disregarded from the determination between bars (black) and spaces (white). Such modification enhances bar code reading technology by accurately reading the bar code information in various light conditions.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Allen as applied to claim 1, and further in view Buhler et al (US 5,672,317). The teachings of Gu as modified by Allen have been discussed above.

Gu as modified by Allen fails to teach that the target comprises a sample vessel.

Buhler et al teaches a sample vessel 11 with a bar code label 48 (Fig 5).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Gu as modified by Allen to the teachings of Buhler because a bar code label is capable to identifying the contents, tests that have been/being performed, results of the sample vessel in a fast and easy

Art Unit: 2876

manner. Furthermore, such modification would further prevent the sample vessel from getting lost within the lab facility.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Allen and Dolash as applied to claim 4 above, and further in view of Blanford (US 4,868,375). The teachings of Gu as modified by Allen and Dolash have been discussed above.

Gu as modified by Allen Dolash fails to teach that the transmitting a laser beam at the target comprises transmitting a red laser beam at the target.

Blanford teaches a bar code reader 20 having a light source 32 producing a continuous laser beam of red monochromatic light (col 3 lines 26-29).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Blanford to the teachings of Gu as modified by Allen and Dolash in order to indicate where the bar code reader is emitting light towards, which helps the user to aim the reader's light source to the precise location of the bar code, therefore obtaining the correct bar code information/reading in a timely manner.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Allen as applied to claim 1, and further in view of Belser (US 5,892,745). The teachings of Gu as modified by Allen have been discussed above.

Gu as modified by Allen fails to teach the subtracting step comprises inverting the baseline signal and summing the detected and inverted baseline signals.

Belser teaches subtracting MO+ and MO- signals using an inverting amplifier and a summing amplifier (col 2 lines 41-44).

Art Unit: 2876

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Belser to the teachings of Gu as modified by Allen because an inverting amplifier and an summing amplifier are well known operational amplifiers that are cheap and easy to use, which leads to a more simple and compact product.

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu as modified by Allend and Belser as applied to claim 6 above, and further in view of Nagata (US 5,898,738). The teachings of Gu as modified by Allen and Belser have been discussed above.

Gu as modified by Allen and Belser fail to teach passing the detected signal through a first resistor and the inverted baseline signal through a second resistor before the summing where the ratio of the first resistor to the second resistor comprises the ratio 1:3.

Nagata teaches a first resistor with its one end connected to the logic sum circuit and the other end connected to an operational amplifier, and a second resistor with its one end connected to the logic sum circuit. Nagata further teaches that the first and second resistors have their resistance values set to be 1:3 ratio.

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Nagata to the teachings of Gu as modified by Allen and Belser in order to adjust the signal amplitude to a value that the summing amplifier is capable to handling, which prevents the amplifier from being damaged or perform wrong operations.

Art Unit: 2876

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu as modified by Allen, Belser and Nagata as applied to claim 8 above, and further in view of Endo (US 5,258,749). The teachings of Gu as modified by Allen, Belser and Nagata have been discussed above.

Gu as modified by Allen, Belser and Nagata fail to teach amplifying the baseline signal by a factor of three before the inverting.

Endo teaches a signal passing through an amplifier 8 and amplifying the level to three time (col 3 lines 25-28).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Endo to the teachings of Gu as modified by Allen, Belser and Nagata and amplify the baseline signal, which is generated by receiving reflected light off of the background, by a factor of three in order to adjust the signal amplitude to a value that the inverting amplifier is capable to handling, which prevents the inverting amplifier from being damaged or perform wrong operations.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Allen as applied to claim 1, and further in view of Robertson (US 4,806,741). The teachings of Gu as modified by Allen have been discussed above.

Gu as modified by Allen fails to teach a method comprising generating a scan synchronization signal immediately before transmitting the light scan, and generating the baseline signal immediately after generating the scan synchronization signal.

Robertson teaches a line scan synchronization signals, which comprise steps of generating a time sequence of pulsed signals (col 3 lines 63-65).



Art Unit: 2876

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Robertson to the teachings of Gu as modified by Allen in order to enhance signals read and improve the readability of defective formed or damaged bar codes.

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

The Applicant amended new limitation to the claims, such as "the light scan striking the target at an angle of incidence of substantially nine degrees or less." Such new limitation required new search and consideration. New grounds of rejection have been applied as indicated above. Therefore, this action is final necessitated by Amendment.

***Allowable Subject Matter***

11. Claims 11-35 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter:

The primary reasons for allowance of the claims is the inclusion of the specific circuit components, and the relationship between components as indicated in the previous office actions.

Art Unit: 2876

***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

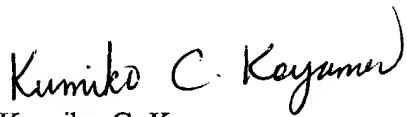
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kumiko C. Koyama whose telephone number is 571-272-2394. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2876

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kumiko C. Koyama  
August 18, 2004



**DIANE I. LEE**  
**PRIMARY EXAMINER**